

Amendments to the claims:

Please replace all prior versions and listings of the claims with the following amended claims:

CLAIMS

What is claimed is:

- 1 1. (Currently Amended) A composite material ~~polymer system~~ comprising
2 amide linkages with hetero-atoms positioned beta relative to nitrogen atoms forming the
3 amide linkages.
- 1 2. (Currently Amended) The composite material ~~polymer system~~ of claim 1, wherein the
2 amide linkages link one or more of aromatic structures and heterocyclic structures.
- 1 3. (Currently Amended) The composite material ~~polymer system~~ of claim 2, wherein the
2 hetero-atoms are nitrogen.
- 1 4. (Currently Amended) The composite material ~~polymer system~~ of claim 2, wherein the
2 heterocyclic structures comprise an alcohol functional group that is positioned beta to at
3 least a portion of the amide linkages.
- 1 5. (Currently Amended) The composite material ~~polymer system~~ of claim 2, wherein the
2 aromatic structures comprise one or more function groups positioned beta relative to at
3 least a portion of the amide linkages, the one or more functional group being selected
4 from a group consisting of an alcohol functional group, a thiol functional group and an
5 amine functional group.
- 1 6. (Currently Amended) The composite material ~~polymer system~~ of claim 2, wherein
2 aromatic structures include bicyclic sub-structures.
- 1 7. (Currently Amended) The composite material ~~polymer system~~ of claim 1, further
2 comprising a binder material.

- 1 8. (Currently Amended) The composite material ~~polymer system~~ of claim 7, wherein the
2 binder material comprises one or more materials selected from a group consisting of
3 epoxy, rubber, plastic, polyurethane and silicone.
- 4 9. (Currently Amended) The composite material ~~polymer system~~ of claim 2, wherein the
5 amide linkages are positioned para between the aromatic structures and the heterocyclic
6 structures.
- 7 10. (Withdrawn) A polymer comprising amide linkages between aromatic structures and
8 heterocyclic structures, wherein the heterocyclic structures comprise hetero-atoms
9 positioned beta relative to a nitrogen of the amide linkages.
- 1 11. (Withdrawn) The polymer of claim 10, further comprising alcohol groups positioned para
2 to the amide linkages on at least one of the aromatic structures and heterocyclic
3 structures.
- 1 12. (Withdrawn) The polymer of claim 10, wherein hetero-atoms include nitrogen atoms.
- 1 13. (Withdrawn) The polymer of claim 12, wherein the nitrogen atoms are positioned beta
2 relative the nitrogen of the amide linkages.
- 1 14. (Withdrawn) The polymer of claim 10, wherein the aromatic structures and the
2 heterocyclic structures are linked in a para configuration between the amide linkages.
- 1 15. (Withdrawn) The polymer of claim 10, further comprising hydroxyl groups.
- 1 16. (Withdrawn) The polymer of claim 15, wherein the hydroxyl groups are positioned beta
2 with respect to the amide linkages on at least one of the aromatic structures and the
3 heterocyclic structures.
- 1 17. (Currently Amended) A method for making a polymer composite material ~~system~~
2 comprising:

- 3 a) reacting a carboxylic acid precursor and an amine precursor in a suitable solvent
4 to form an aromatic polyamide, wherein the carboxylic acid precursor comprises
5 an aromatic structure and two reactive carboxylic acid groups and the amine
6 precursor comprises a heterocyclic structure and two reactive amine groups and
7 wherein the heterocyclic structure comprises a hetero-atom in a beta position
8 relative to one or more of the reactive amine groups; and
9 b) isolating the aromatic polyamide.

i 18. (Original) The method of claim 17, wherein the hetero-atom is a nitrogen.

1 19. (Original) The method of claim 17, wherein the aromatic carboxylic acid precursor
2 comprises a functional group positioned beta to one or more the reactive carboxylic acid
3 groups, wherein the one or more functional groups are selected from a group consisting
4 of an alcohol functional group, a thiol functional group and an amine functional group.

1 20. (Original) The method of claim 17, wherein the heterocyclic amine precursor comprises a
2 functional group positioned beta to the one or more of the reactive amine groups, wherein
3 the functional group is selected from a group consisting of an alcohol functional group, a
4 thiol functional group and an amine functional group.

1 21. (Original) The method of claim 17, wherein the two reactive carboxylic acid groups are
2 positioned para to each other on the aromatic structure.

1 22. (Original) The method of claim 17, wherein the reactive amine groups are positioned para
2 relative to each other on the heterocyclic structure.

1 23. (Original) The method of claim 17, further comprising incorporating the aromatic
2 polyamide in a binder material.

1 24. (Original) The method of claim 23, wherein the binder material is selected from a group
2 consisting of epoxy, rubber, plastic, polyurethane and silicone.

- 1 25. (Original) The method of claim 17, further comprising integrating the aromatic
2 polyamide into a fabric material.
- 1 26. (Withdrawn) A method of making an aromatic polyamide comprising:
2 a) combining a first precursor with a second precursor to form the aromatic
3 polyamide, wherein the first precursor comprises two reactive carboxylic acid
4 groups bonded to an aromatic structure and the second precursor comprises two
5 reactive amine groups bonded to a heterocyclic structure; and
6 b) isolating the aromatic polyamide.
- 1 27. (Withdrawn) The method of claim 26, further comprising combining a third precursor
2 with the first precursor and the second precursor, wherein the third precursor comprises
3 two reactive carboxylic acid groups bonded to an aromatic structure that is different from
4 the aromatic structure of first precursor.
- 1 28. (Withdrawn) The method of claim 26, further comprising combining a third precursor
2 with the first precursor and the second precursor, wherein the third precursor comprises
3 two reactive amine groups bonded to a heterocyclic structure that is different from the
4 heterocyclic structure of the second precursor.
- 1 29. (Withdrawn) The method of claim 26, wherein the heterocyclic structure of the second
2 precursor comprises a nitrogen atom positioned beta to at least one of the reactive amine
3 groups.
- 1 30. (Withdrawn) The method of claim 29, wherein the heterocyclic structure of the second
2 precursor comprises an alcohol functional group.
- 1 31. (Withdrawn) The method of claim 30, wherein the alcohol functional group is positioned
2 beta to at least one of the reactive amine groups.
- 1 32. (Withdrawn) The method of claim 26, wherein the aromatic structure comprises an
2 alcohol functional group.

- 1 33. (Withdrawn) The method of claim 32, wherein the alcohol functional group is positioned
2 beta to at least one of the reactive carboxylic acid groups.